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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,672		Carl D. Meinhart	0328	9858
33306	7590	06/22/2004	EXAMINER	
GENE W. ARANT P.O. BOX 269 LINCOLN CITY, OR 97367-0269			LUU, THANH X	
			ART UNIT	PAPER NUMBER
			2878	
DATE MAILED: 06/22/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

10/713,672

Applicant(s)

MEINHART ET AL.

Examiner

Thanh X Luu

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 01/2004.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 14 and 16, Applicant uses the terms “the fluid flow”, “the flowing fluid” and “the fluid” to refer to the same fluid. Examiner recommends using consistent terminology, otherwise, antecedent basis problems would occur.

Regarding claim 2, it is unclear in its given context what “optics following... light source” means.

Regarding claims 3, 8, 11, it is unclear in its given context what “following” means with respect to the various elements of the apparatus.

Regarding claim 6, it is unclear how delivering a pair of closely spaced pulses of light with a known time delay is related to the rest of the invention.

Regarding claim 8, “said pulsed monochromatic light source” lacks proper antecedent basis. Further, it is unclear in its given context how a continuous light source becomes a pulsed light source.

Regarding claims 9 and 10, "said shutter" lacks proper antecedent basis.

Regarding claim 14, "the thus-received fluorescent light" lacks proper antecedent basis.

Regarding claims 15 and 19, "the successively recorded time sequence discrete fluorescent particle images" lacks proper antecedent basis.

Regarding claim 16, "the fluorescent particles", "the original pulses of light", "fluorescent light" and "the solid particles" lacks proper antecedent basis.

Regarding claim 17, it is unclear in its given context how the pair of closely spaced pulses of light is related to the spaced pulses.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1, 2, 4-9, 14 and 16-18 are rejected under 35 U.S.C. 102(a) as being anticipated by the publication of Paul et al. ("Imaging of Pressure and Electrokinetically Driven Flows through Open Capillaries", Analytical Chemistry, July 1, 1998).

Regarding claims 1, 2, 4-9, 14 and 16-18, Paul et al. disclose (see Figs.) a test apparatus for measuring the velocity of a fluid flow in a passageway, comprising: a test device (capillary) having a transparent wall through which the flowing fluid may be observed, and adapted to have injected therein fluorescent particles having an excitation wavelength and an emission wavelength; a light source (blue laser) for

Art Unit: 2878

repetitively delivering a pair of closely spaced pulses of light to the flowing fluid with a known time delay, being operable to broadly illuminate the entire test device with each light pulse such that fluorescent light is emitted from the particles at the emission wavelength; a mirror (dichoric beamsplitter) positioned between the light source and the test device and being angularly positioned to generally reflect light at the excitation wavelength and to generally transmit light at the emission wavelength; a microscope lens (visible objective) positioned between the mirror and the test device for receiving light reflected from the mirror and transmitting the light to the test device, the lens having a high numerical aperture and a high magnification with a depth of field that defines a two-dimensional plane within the flowing fluid; an image recording device (CCD camera) positioned to receive fluorescent light transmitted from the test device through the lens and the mirror; and a barrier filter (long pass filter) positioned between the mirror and the image recording device for passing light at the emission wavelength while rejecting light at the excitation wavelength; wherein an out of plane measurement domain is determined by the depth of field of the lens. Paul et al. also disclose the light source is monochromatic (blue) and beam forming optics (polarizer). In addition, Paul et al. disclose (see page 6) pulses in orders of nanoseconds and delays ranging from nanoseconds to seconds and a shutter (ferro-rotator).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2878

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 10-13, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paul et al.

Regarding claims 3, 11 and 12, Paul et al. disclose the claimed invention as set forth above. Paul et al. do not specifically disclose forming a monochromatic light source by using a chromatic light source and an excitation filter. However, such configurations are well known and require only routine skill in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide such a configuration in the apparatus of Paul et al. as desired for finer wavelength control.

Regarding claims 10 and 13, Paul et al. disclose the claimed invention as set forth above. Paul et al. do not specifically disclose mechanical shutters. However, it is well known that mechanical and electro-optical shutters are equivalent and are conventional. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a mechanical shutter in the apparatus of Paul et al. as desired.

Regarding claims 15 and 19, Paul et al. further disclose (see Figure 3) analyzing particle images to determine fluid velocities. Paul et al. do not specifically disclose an average correlation analysis step or means. However, the type of analysis being conducted on the images is a matter of design choice. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide average correlation analysis in the apparatus and method of Paul et al. to provide more accurate

and precise measurements.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-19 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. 6,653,651. Although the conflicting claims are not identical, they are not patentably distinct from each other because the current claims are simply broader versions of the claims of the '651 patent.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X Luu whose telephone number is (571) 272-2441. The examiner can normally be reached on M-F (6:30-4:00) First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2878

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thanh X Luu
Primary Examiner
Art Unit 2878

06/04